

OREGON AGRICULTURAL COLLEGE AND EXPERIMENT STATION

J. T. Jardine, Director

Letter of Information No. 29

April, 1930

The Status of Insecticides for Codling Moth Control in Oregon

This statement relating to the status of insecticides in the control of codling moth was prepared by the experiment station committee for the purpose of considering the codling moth experimental program in the state of Oregon. It is being sent to you for your information and guidance during the present season in combating the codling moth. It represents the present opinion of the men whose names are attached hereto, and is based upon the experimental tests and investigations undertaken at the central and branch experiment stations.

The experimental work on substitutes for lead arsenate in the control of codling moth is still in progress and it is expected that modifications will have to be made from time to time as the work progresses.

The standard poison material for the control of codling moth and the general recommendations for combating this pest are found in Extension Bulletin 403.

1. Arsenate of lead is still the standard insecticide for use in codling moth control.
2. Other insecticides must be considered either ineffective or in the experimental stage.
3. Experimental tests at Corvallis have shown that calcium arsenate and lime as a substitute for lead arsenate offer some promise, but the evidence at hand is not such as to warrant recommending it for general use.
4. Dust sprays of lead arsenate and calcium arsenate have given favorable results in tests conducted at Corvallis in codling moth control when applied at night with little or no wind. Less favorable results have been obtained in experimental tests and applications by growers in the Hood River district.
5. Experimental tests have shown that the oils alone have not as yet given codling moth control in Oregon. Oils in combination with lead arsenate have given better control than lead arsenate alone.
6. Oil sprays have caused injury to the fruit of certain varieties of apples. Last season this injury occurred, especially at the calyx end on green and yellow varieties. Oils with a viscosity not exceeding 55 and a sulfonation test of not less than 85 are less injurious to the white and yellow varieties, but oils with a viscosity ranging from 65 to 75 are more effective in killing insects. The latter, however, may cause injury to the white and yellow varieties.

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7. If oils in combination with lead arsenate are used, the number of applications should not exceed three and under most conditions not more than two are advisable because of possible injury and spray residue difficulties.
8. Oils in combination with lead arsenate should be applied during the height of the egg-laying period of the first brood, but if sulfur sprays are applied after the dormant period, no oil should be used in the first brood sprays.
9. Because of difficulty in removing spray residue, the oil-lead arsenate combination should not be used after July 25. Experimental tests with an oil nicotine sulfate combination in later sprays offers some promise, but the evidence at hand is not such as to warrant recommending its general use.
10. Some oils may not be sufficiently volatile to permit removal of the lead arsenate residue by the hydrochloric acid treatment. Any oil remaining on fruit at the time of harvest retards the solvent action of the acid, this retardation depends on the amount of oil actually present at the time of treatment.
11. Experimental tests indicate that the aforementioned type of oils when applied at certain times for specific insects, such as red spider mites and thrips, can be used in the codling moth spray program with safety.
12. Caution: Oil sprays used alone or in combination with lead arsenate should not be allowed to stand in pipes or spray tanks, but should be applied immediately after being mixed. Fruit sprayed with the oil-lead arsenate combination after the spray has been allowed to stand in tanks or pipes for some time, can be cleaned only with great difficulty. This spray mixture is also ineffective in control.

Signed: Leroy Childs
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